addressed earlier, and he also offers constructive suggestions aimed at private-firm risk managers and regulators.

In the opinion of this reviewer, academics and scholars of probability, statistics, and financial mathematics will likely be familiar with many of the "model weaknesses" described in this book. Moreover, I found myself nodding more often than expressing shock or dismay at the arguments being made. The intellectual and historical factoids on statistics, probability, and risk-theory were interesting, though mostly known to probability researchers. Arguably everyone teaching basic financial risk management from a quantitative perspective (in a business school or economics department) should be aware of the limitations of these mathematical models and add disclaimers. That said, I found appealing the ways in which the ideas were presented by this well-regarded practitioner and respected scholar. I especially commend the author for not taking a sledgehammer to the entire risk-management "quant" industry and instead offering a thought-provoking and helpful guide through the good, the bad, and the ugly. This book should be on the reading list of experienced risk managers in the financial services industry as well as students who are contemplating a career in the field. It provides a thoughtful qualitative companion to more equation-laden texts on modern risk management.

Moshe A. Milevsky
York University, Toronto

Social Security Programs and Retirement around the World: Fiscal Implications of Reform. Jonathan Gruber and David A. Wise, eds. The University of Chicago Press, 2007, ISBN 978-0-226-31017-6, 392 pages.
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The very first paragraph of this book's introduction provides an excellent summary of what lies at the heart of this, the third volume on NBER's projects on social security programs around the world: "Under pay-as-you-go social security systems, most developed countries have made promises they can't keep. The systems in their current forms are not financially sustainable .... By penalizing work, social security systems magnify the increased financial burden caused by aging populations and thus contribute to their own insolvency". As the book's subtitle "Fiscal Implications of Reform" suggests, this new volume compiled by editors Jonathan Gruber and David Wise puts the emphasis on the financial consequences of the fiscal benefits of potential reforms. One of the main messages of the volume is that reforms not only reduce the financial burden of social security directly by cutting benefits, but they also have an indirect impact by mitigating the penalty on work and inducing elderly workers to retire later.

This volume, like its two predecessors in this NBER series, contain detailed analyses for a number of industrialized countries. Highly informative introductory chapters written by the editors summarize the common methodology and important findings. The main message of the first (1999) volume was that incentives created by public pension schemes have greatly contributed to the decline of senior labor force participation. The unused productive capacity of elderly workers is strongly related to the level of taxes implicit in the social security system and exiting the labor force often coincides with the age at which some form of benefits are available. The second (2004) volume used microestimation to examine work incentives in greater detail at the individual level using micro data for each of the countries analyzed. The use of individual data allows quantification of the impact of incentives, and the magnitudes were shown to be significant and large. Though there are cross-country differences, retirement decisions proved closely linked to the incentives provided by the scheme.

In this third volume of the NBER series, the authors exploit their earlier estimates to assess the fiscal implications of changes in the provisions of social security systems in 11 countries: Belgium, Canada, Denmark, France, Germany, Italy, Japan, The Netherlands, Spain, Sweden, the UK and the US. Three illustrative reforms are simulated to facilitate comparisons between countries, with two departing from each country's existing scheme. The first reform is an increase in benefit eligibility ages by three years, the second an actuarial adjustment of benefits received before the normal retirement age, and the third involves a so-called "common reform" in which the same structure is prescribed for all countries. In this last cast, the early retirement age is set at age 60 and the normal retirement age at 65; the age-65 replacement rate is 60 percent of age-65 earnings. While these reforms are not suggested as desirable or politically feasible, they instead facilitate the cross-country comparative study.

It seems a wise decision not to have calculated the long-run financial consequences of the simulated reforms, as this would have required a number of debatable assumptions about projections of demographics, economic growth, and interest rates. Instead, the fiscal implications of reform are computed for specific cohorts (in most countries those born 1930–40), for which the general equilibrium effects can be expected to be much smaller. The down-side of this approach is that these generations are not necessarily representative, which leads to a difference in numbers between the population and the cohort used as a base for the analysis.

A detailed template dictates the simulations for each country. Abbreviated, this goes as follows: the fiscal position for a chosen cohort is computed using the estimated distribution of retirement ages under the *status quo*. Six combinations of different incentive measures and age effects estimated from the second volume are used to predict the distribution of retirement ages under each reform. The new fiscal position is then compared with the base case, and the resulting difference divided into two components: a mechanical component reflecting the effect of the reform assuming no changes in the retirement ages (the financial saving of paying out lower benefits), and a behavioral effect or the additional incremental effect due to the change in individual behavior. (The term behavioral is unfortunate given the rapidly growing literature on behavioral reasons for retirement decisions that have been shown to be very strong.)

Despite the lengthy description of the simulation methods, also detailed in the country chapters, a number of important issues remain unclear. What happens, for example, to elderly people who exit the work force prior to the first pensionable age when it is raised by three years? In what way will the (often fuzzy) eligibility condition for disability insurance be adjusted? How much will unemployment insurance and means tested social assistance step in as substitutes for later or lower pension payments? All of these factors may, indeed, contribute in weakening the predominantly positive fiscal impact of the proposed reforms. Despite the common template the country chapters differ quite substantially with regard to the depth of the reform analyses and the discussion of additional policy issues. Many of the chapters offer distributional analyses by income quintiles. Actual reforms such as the Dini reform for Italy or the 2000 reform for Japan provide interesting insights. Some of the country chapters are somewhat tedious to read due to the literally dozens of definitions, tables and graphs.

Like its predecessor NBER volumes from this project, the new book is informative and useful as a reference for social security schemes and looming problems in the covered countries. Since the third volume mainly applies the procedures of the second, its marginal contribution to knowledge is clearly less than that of its predecessors. A next step would be to change the paradigm in which social security has been discussed thus far, which would mean no longer analyzing social security systems in isolation. One avenue for this mentioned in the introduction is the integration of the economic and social situation of other generations. Another one would be – as many chapters point out – to discuss social protection for elderly workers and retirees in a broader sense, such as multiple pathways into retirement (notably disability and unemployment insurance, part-time retirement and second careers), policies to increase the employability of elderly workers, and the financing of long term care.

Monika Bütler
University of St. Gallen